

REMARKS

No new matter is believed to be added to the application by this Amendment.

Status of the Claims

Claims 1-18 are pending in the application and stand rejected. The amendment to claim 18 corrects a minor error.

Objection to the Drawings

The Examiner objects to the drawings as not showing every feature of the invention specified in claims 2, 10 and 17.

The relationship of the tray 111 and the liquid crystal panel is shown in Figure 8. Figure 7 shows the open portion 113 (in which the protruded portion 111a fits) and its relationship to the injection port 104. It is evident that the open portion 113 is wider than the injection port 104. As a result, the combination of Figure 7 and Figure 8 clearly show the limitations set forth in claims 2, 10 and 17.

Rejection Under 35 U.S.C. 102(b) Over Kim

Claims 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim (U.S. Patent 5,335,103). Applicant traverses.

The liquid crystal display as embodied in claim 9 includes upper and lower substrates. The lower substrate has an open

portion that elongates from an injection port to a side of the lower substrate. Liquid crystal material is interposed between the upper and lower substrates. A seal pattern is formed between the upper and lower substrates, and the seal pattern has an injection port.

Kim pertains to a liquid crystal device with a double seal pattern. Figure 2 of Kim shows a liquid crystal display panel having two seal patterns 23 and 26. The inner seal pattern 23 forms a first injection port 24, and the second seal pattern 26 forms a second injection port 27. From Figure 2 of Kim, it is clear that the liquid crystal injection ports 24 and 27 combine to form a single opening to transport liquid crystal material to the active area 21.

Kim fails to disclose or suggest an open portion such as the open portion 113 shown in Figure 7 of the application (see also claim 9).

Although the Examiner may assert that the injection port 27 of Kim is an open portion, Kim at column 3, lines 5-10 clearly describes a second liquid crystal injection port 27. In contrast, the open portion 113 of the present invention is indented from the side of the lower substrate 102. In comparison, the second injection port 27 of Kim is an adhesive insulating epoxy formed on the substrate 22. See Kim at column 3, lines 21-23.

not  
in  
claim

As a result, Kim fails to anticipate the invention as claimed in claims 9 and 10. Accordingly, this rejection is overcome and withdrawal thereof is respectfully requested.

**Rejection Under 35 U.S.C. 103(a) Over Kim in View of Applicant's Disclosure**

Claims 11-15 are rejected under 35 U.S.C. 103(a) as being obvious over Kim in view of Applicant's disclosure. Applicant traverses.

The conventional art described in the specification is indicative of the related art that the invention supercedes. No admission of prior art has been made in the application, and the utilization of the Applicant's disclosure as prior art is improper.

The Examiner uses the conventional art in the specification or such features as data pads, gate pads and the upper substrate being smaller than the lower substrate. However, the conventional art in the specification fails to address the failure of Kim to disclose or suggest the utilization of an open portion (even if the conventional art could be combined with Kim). As a result, a person having ordinary skill in the art would not be motivated by the conventional art described in the specification and Kim to produce a claimed embodiment of the invention. Thus, a *prima facie* case of obviousness has not been made.

Accordingly, this rejection is overcome and withdrawal thereof is respectfully requested.

Not in  
claims  
11-15

**Rejection Under 35 U.S.C. 103(a) Over Kim in View of Yamamoto**

Claims 1, 2 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Yamamoto (U.S. Patent No. 6,095,203). Applicant traverses.

Kim, discussed above, fails to disclose a liquid crystal display panel having an open portion. Yamamoto fails to address the deficiencies of Kim.

The Examiner turns to Yamamoto for teachings pertaining to a tray. Figure 21 of Yamamoto shows a tray 12 that is used to evaporate liquid crystalline material. See Yamamoto at column 2, lines 46-47. The Examiner also turns to Figure 4A of Yamamoto, which shows an injection connector 22 having an injection nozzle 46 and a cavity 47. Yamamoto fails to disclose or suggest a tray having a protruded portion such as is shown in Figure 8 of the application, which has a tray 111 with a protruded portion 111a.

As a result, a person having ordinary skill in the art would not be motivated to produce an embodiment having the open portion 113 of the present invention. Further, a person having ordinary skill in the art would not be motivated by the combination of Kim and Yamamoto to produce a method of filling a liquid crystal material into a liquid crystal display panel, which includes using a tray provided with a protruded portion. Thus, a *prima facie* case of obviousness has not been made over Kim and Yamamoto.

Accordingly, this rejection is overcome and withdrawal thereof is respectfully requested.

**Rejection Under 35 U.S.C. 103(a) Over Kim, Yamamoto and Further in View of Applicant's Disclosure**

Claims 3-8 are rejected under 35 U.S.C. 103(a) as being obvious over Kim and Yamamoto as applied to claims 1 and 2 and further in view of the Applicant's disclosure. Applicant traverses.

The deficiencies of Kim, Yamamoto and the conventional art described in the specification have been discussed above.

The Examiner turns to the Applicant's disclosure (improperly, as discussed above) for features such as data pads, gate pads, and relative substrate sizes. The Examiner additionally turns to the Applicant's disclosure for teachings pertaining to capillary action. However, the Applicant's disclosure fails to address the deficiencies of Kim and Yamamoto in suggesting a claimed embodiment of the invention. Further, the technology of Yamamoto is directed at an injection method, which does not utilize capillary action. Therefore, the Examiner is turning to non-analogous art in making this rejection.

As a result, a person having ordinary skill in the art would not be motivated by Kim, Yamamoto and the Applicant's disclosure to produce a claimed embodiment of the invention. Thus, a *prima facie*

case of obviousness has not been made over Kim, Yamamoto and the Applicant's disclosure. Accordingly, this rejection is overcome and withdrawal thereof is respectfully requested.

**Conclusion**


Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert E. Goozner, Ph.D. (Reg. No. 42,593) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Attached hereto is a marked-up version of the changes made to the application by this Amendment.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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Attachment: Version with Markings to Show Changes Made

(Rev. 02/20/02)

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims have been amended as follows:

18. (Amended) [a] A system for filling a liquid crystal material into a liquid crystal panel, the system comprising:

a liquid crystal display panel including:

an upper substrate;

a lower substrate assembled with the upper substrate, the lower substrate having an open portion that elongates from an injection port to a side of the lower substrate;

liquid crystal material interposed between the upper and lower substrates; and

a seal pattern formed between the upper and lower substrates, the seal pattern having an injection port; and

a tray including:

a body defining a cavity therein; and

a protruded portion extending from said body and corresponding to the open portion of the liquid crystal panel.